

The pivot unit **4** further includes a pair of auxiliary links **42**. Each of the auxiliary links **42** is disposed adjacent to a respective one of the lateral sides of the display module **2** and the main frame module **3**, and has a first end mounted pivotally and frictionally on the main frame module via the respective third pivot retainer **30**, and an opposite second end with an inner side that is formed with a stub **420**.

FIG. **10** illustrates a known pivot joint that is applicable for use as the first, second and third pivot retainers **26**, **32**, **30**. The pivot joint includes a pair of rotatably and fittingly coupled portions (A), (B), one of which is secured to the display module **2** or the main frame module **3**, the other one of which is secured to the main link **40** or the auxiliary link **42**. The coupled portions (A), (B) require a large amount of external force to generate relative axial rotation therebetween. Thus, the main links **40** and the auxiliary links **42** can be used to support the display module **2** at a desired angle relative to the main frame module **3**. This will be described in greater detail in the succeeding paragraphs.

Referring again to FIGS. **2** and **3**, initially, the display module **2** is in a closed position, where the display module **2** is disposed on top of the main frame module **3** with the display panel (not visible) on the display module **2** facing downwardly and covering the keyboard (not visible) on the keyboard mounting side of the main frame module **3**. The stub **420** on each of the auxiliary links **42** engages removably and resiliently the retaining hole **34** in the respective lateral side of the main frame module **3** at this time.

By pivoting the main links **40** about a pivot axis defined by the second pivot retainers **32** in a clockwise direction from the closed position, the display module **2** can be moved relative to the main frame module **3** such that the display panel **20** forms an angle of 90° or more with the keyboard **36** on the main frame module **3**. The display module **2** can then be pivoted relative to the main links **40** about another pivot axis defined by the first pivot retainers **26** and parallel to the pivot axis defined by the second pivot retainers **32** such that the locking protrusion **400** on each of the main links **40** engages removably and resiliently the locking hole **22** in the respective lateral side of the display module **2**. The display module **2** is accordingly disposed in a standard keyboard typing position, as shown in FIGS. **4** and **5**.

For someone who has mastered the locations of the different keys on the keyboard **36**, the main links **40** can be pivoted slightly about the pivot axis defined by the second pivot retainers **32** in a counterclockwise direction from the standard keyboard typing position, and the display module **2** can be subsequently pivoted relative to the main links **40** about the pivot axis defined by the first pivot retainers **26**, thereby disengaging the locking protrusion **400** on each of the main links **40** from the locking hole **22** in the respective lateral side of the display module **2** such that the display module **2** inclines rearwardly and upwardly relative to and is spaced apart vertically from the main frame module **3** and such that the display panel **20** faces upwardly. At this time, the stub **420** on each of the auxiliary links **42** can be disengaged from the retaining hole **34** in the respective lateral side of the main frame module **3**, and the auxiliary links **42** can be pivoted in a clockwise direction about a pivot axis defined by the third pivot retainers **30** and parallel to those defined by the first and second pivot retainers **26**, **32** to engage removably and resiliently the stub **420** on each of the auxiliary links **42** with the engaging hole **24** in the respective lateral side of the display module **2**, as best illustrated in FIGS. **6** and **7**. The display module **2** is accordingly disposed in an ergonomic keyboard typing position, in which the auxiliary links **42** assist the main links

**40** in positioning the display module **2** relative to the main frame module **3**. When the display module **2** is in the ergonomic keyboard typing position, the display panel **20** faces upwardly, and the hands can be extended in the space formed between the display module **2** and the main frame module **3**, such that the location of the hands and the viewing angle of the eyes are accordingly disposed at natural postures.

To move the display module **2** to an image viewing position, as shown in FIGS. **8** and **9**, the main links **40** and the auxiliary links **42** are pivoted respectively about the pivot axes defined by the second and third pivot retainers **32**, **30** in a counterclockwise direction from the ergonomic keyboard typing position until the display module **2** is disposed on top of the keyboard mounting side of the main frame module **3** and covers the keyboard (not visible) with the display panel **20** facing upwardly. At this time, the portable computer can be used for browsing the Internet via known touch control or pen control techniques without obstruction by the main frame module **3**.

In the preferred embodiment, the locking protrusions **400** and the stubs **420** are provided respectively on the main links **40** and the auxiliary links **42**. In a modified embodiment, the main links and the auxiliary links are formed with holes to engage removably and resiliently corresponding locking protrusions and stubs formed on the display module and the main frame module to achieve the same effect.

While the present invention has been described in connection with what is considered the most practical and preferred embodiment, it is understood that this invention is not limited to the disclosed embodiment but is intended to cover various arrangements included within the spirit and scope of the broadest interpretation so as to encompass all such modifications and equivalent arrangements.

We claim:

1. A portable computer comprising:

a display module having two lateral sides and a panel mounting side provided with a display panel;  
a main frame module having two lateral sides and a keyboard mounting side provided with a keyboard; and  
a pivot unit interconnecting pivotally said lateral sides of said display module and said main frame module about a first pivot axis located at an intermediate section of said lateral sides of said display module, and about a second pivot axis located at a rear end portion of said lateral sides of said main frame module and parallel to the first pivot axis to permit movement of said display module among a closed position, wherein said display module is disposed on top of said main frame module with said display panel facing downwardly and covering said keyboard, a standard keyboard typing position, where said display panel forms an angle with said keyboard, and an image viewing position, where said display module is disposed on top of said main frame module and covers said keyboard with said display panel facing upwardly,

wherein said pivot unit includes a pair of main links, each of which is disposed adjacent to a respective one of said lateral sides of said display module and said main frame module, each of said main links having a first end pivotally retained on said intermediate section of the respective one of said lateral sides of said display module, and a second end pivotally retained on said rear end portion of the respective one of said lateral sides of said main frame module.

2. The portable computer as claimed in claim 1, wherein said intermediate section of each of said lateral sides of said